



Waste Management Trends and Challenges

Introduction

The City's first waste plan, the Integrated Waste Management Master Plan (IWMMP), was adopted in 2003 and was designed to set waste direction in the city for a 20-year period. As the end of the planning horizon for this waste plan draws near, awareness has been increasing that the traditional approach to waste management used by many municipalities across North America will not be enough to keep communities clean and liveable in the long-term. This traditional approach included reliance on landfilling and exporting garbage and recyclables to parts of the globe willing to accept them.

What is the current global thinking on waste? What are the main trends and challenges we need to consider as we discuss the next Solid Waste Master Plan?

1. Waste generation

The World Bank estimates that the world's population will generate 3.4 billion tons of waste annually by 2050, increasing drastically from today's 2 billion tons. This increase in waste generation is expected to create further challenges for municipal waste management systems as rapid urbanization will continue to test reduction efforts, as well as waste collection, processing and disposal systems.

"...[T]he world is on a trajectory where waste generation will drastically outpace population growth by more than double by 2050. Although we are seeing improvements and innovations in solid waste management globally, it is a complex issue and one that we need to take urgent action on..."

What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050 World Bank Group, 2018

2. The 'Evolving Tonne'

Over the past few decades, the composition of the waste stream has been changing. This change is referred to as the 'Evolving Tonne'. Example themes include:

- Heavier packaging replaced by lightweight packaging;
- The decline of the hard print newspaper and magazine industry as they move to an online format; and
- The increase of cardboard packaging as e-commerce continues to grow its retail market share.



These trends have led to lower recycling tonnages but higher volumes of materials, resulting in higher collection and processing costs. The China National Sword policy, introduced in February 2018, made the situation more complicated when China closed the door on the import of mixed post-consumer plastics and paper to the Chinese market.

Despite the recent news about struggling recycling programs and end markets, there is some room for optimism. There has been a wave of recent announcements about the construction or planned construction of new recyclables processing facilities in North America that will help to establish new end markets for mixed plastics and paper packaging.

3. The proliferation of plastics

Since the 1950's, the use of plastic has outpaced that of almost any other material largely due to it being inexpensive, lightweight, convenient and easy to manufacture. One of plastic packaging's biggest challenges comes in the form of [single-use plastic](#) packaging. In addition, the enormous growth in the use of flexible plastic that cannot be recycled, e.g. pouches and laminated packaging, has contributed to the disposal dilemma.

"The Canadian plastics economy is mostly linear, with an estimated nine percent of plastic waste recycled..."

Economic Study of the Canadian Plastic Industry, Markets and Waste: Report commissioned by Environment and Climate Change Canada, 2019

Today, there is a lot of pressure from governments and citizens to reduce the amount of plastic being consumed, or to improve plastic packaging so that it can be recycled. This has forced corporations to respond by announcing initiatives and targets to reduce single-use plastics. Initiatives include switching to non-plastic packaging and/or increasing recycled content in their plastic packaging. At the same time, companies are turning to bioplastic packaging, which has its own inherent issues.

4. Demographic and lifestyle trends

Like other countries, Canada's demographics are changing, with an aging population, more women in the workforce and more people living in single family households. This has resulted in a greater demand for convenient foods and lifestyles. The result is a society governed by fast food, fast technology and fast lifestyles resulting in a throw-away society characterized by:

- Desire for the best and newest technologies, resulting in the disposal of electronic goods on a regular basis.

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- Access to cheap and convenient food which encourages production of convenient packaging, especially single-use plastics.
- Demand for cheap goods, such as clothing, that are designed to wear out or break down over a short period of time.
- Rise in cardboard packaging waste as online shopping continues to gain a larger share of the retail market.

5. Collection trends

Some municipalities are beginning to report disruptions in curbside collection service due to the lack of reliable drivers and collection crews. Driver and collection crew shortages are placing growing pressure on municipalities with manual collection to explore alternative options, such as automated cart collection.

In addition, municipalities throughout Canada are looking at including alternative fuels for fleet collection vehicles. Increasingly, municipalities are replacing traditional collection vehicles that operate on diesel fuel with collection vehicles operating on biofuels, such as compressed natural gas, and electric vehicles.

Influence of these trends and challenges on the Solid Waste Master Plan

Through Solid Waste Master Plan development, the City of Ottawa has a great opportunity to develop strategies to respond to current and future waste management trends and challenges. Conversations over the next 18 months will consider a broad variety of policies, programs and legislation changes to foster greater waste reduction and diversion in the city. The City could use a variety of options to help respond to these trends and challenges, including (to name a few):

- Additional education and outreach policies to change waste reduction and diversion habits;
- Increased emphasis on the first two Rs of the Waste Hierarchy - Reduction and Reuse;
- Bans and levies to reduce the amount of throw-away items, such as single-use plastics;
- Additional green procurement strategies and increased emphasis on the [circular economy](#);
- Incentives to encourage the establishment of repair businesses and activities;
- Exploration of new and emerging technologies; and



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- Approaches to decrease Greenhouse Gas emissions, such as food waste reduction and diversion strategies.

All of these topics, and more, will be explored and discussed throughout Solid Waste Master Plan development.